

Page 6, paragraph beginning at line 2 to page 6, line 11, amend as follows:

Preferred polyamides for the layer I or the bonding agent are first and foremost aliphatic homopolycondensates and copolycondensates, for example PA 46, PA 66, PA 68, PA 612, PA 88, PA 810, PA 1010, PA 1012, PA 1212, PA 6, PA 7, PA 8, PA 9, PA 10, PA 11 and PA 12. The designation of the polyamides corresponds to the international standard, where the first digit(s) indicates the number of carbon atoms in the starting diamine and the last digit(s) indicates the number of carbon atoms of the dicarboxylic acid. If only one number is given, this means that the polyamide has been prepared from an α,ω -aminocarboxylic acid or from the lactam derived therefrom. For further information, reference may be made to H. Domininghaus, Die Kunststoffe und ihre Eigenschaften, pages 272 ff., VDI-Verlag, 1976.

Page 6, paragraph beginning at line 21 to page 7, line 3, amend as follows:

Further preferred polyamides are mixed aliphatic/aromatic polycondensates as are described, for example, in U.S. 2,071,250, U.S. 2,071,251, U.S. 2,130,523, U.S. 2,130,948, U.S. 2,241,322, U.S. 2,312,966, U.S. 2,512,606 and U.S. 3,393,210 and also in Kirk-Othmer, Encyclopedia of Chemical Technology, 3rd edition, Vol. 18, pages 328 ff. and 435 ff., Wiley & Sons, 1982. Other preferred polyamides are poly(ether ester amides) or poly(ether amides). Such products are described, for example, in DE-A 25 23 991, DE-A 27 12 987 and DE-A 30 06 961.

Page 7, paragraph beginning a line 15 to line 23, amend as follows:

The polyolefin of layer III or of the bonding agent is, for example, polyethylene or polypropylene. It is in principle possible to use any commercial type of polyolefin. Thus, for example, possible polyolefins are: linear polyethylene of high, intermediate or low density, LDPE, isotactic or atactic homopolypropylene, random copolymers of propene with ethene

16 and/or 1-butene, ethylene-propylene block copolymers and the like. The polyolefin can further comprise an impact-toughening component such as EPM or EPDM rubber or SEBS. Furthermore, the customary auxiliaries and additives may also be present. The polyolefin can be prepared by any known process, for example by the Ziegler-Natta process, by the Phillips process, by means of metallocenes or by a free-radical process.

Page 9, paragraph beginning at line 2 to page 10, line 2, amend as follows:

As polyamine, it is possible to use, for example, substances from the following classes:

- polyvinylamines (Römpp Chemie Lexikon, 9th edition, Volume 6, page 4921, Georg Thieme Verlag, Stuttgart 1992);
- polyamines which are prepared from alternating polyketones (DE-A 196 54 058);
- dendrimers such as
$$((\text{H}_2\text{N}-(\text{CH}_2)_3)_2\text{N}-(\text{CH}_2)_3)_2-\text{N}(\text{CH}_2)_2-\text{N}((\text{CR}_2)_2-\text{N}((\text{CH}_2)_3-\text{NH}_2)_2)_2$$

(DE-A-196 54 179) or
tris(2-aminoethyl)amine, N,N-bis(2-aminoethyl)-N',N'-bis[2-[bis(2-aminoethyl)amino]ethyl]-1,2-ethanediamine,
3,15-bis(2-aminoethyl)-6,12-bis[2-[bis(2-aminoethyl)amino]ethyl]-9[bis[2-bis(2-aminoethyl)amino]ethyl]amino]ethyl]-3,6,9,12,15-pentaazaheptadecane-1,17-diamine (J.M. Warakowski, Chem, Mat. 1992, 4, 1000-1004);
- linear polyethylenimines which can be prepared by polymerization of 4,5-dihydro-1,3-oxazoles and subsequent hydrolysis (Houben Weyl, Methoden

der Organischen Chemie, Volume E20, pages 1482- 1487, Georg Thieme Verlag, Stuttgart, 1987);

- 7173
- branched polyethylenimines which are obtainable by polymerization of amidines (Houben-Weyl, Methoden der Organischen Chemie, Volume E20, pages 1482-1487, Georg Thieme Verlag, Stuttgart, 1987) and generally have the following amino group distribution:

from 25 to 46% of primary amino groups,

from 30 to 45% of secondary amino groups and

from 16 to 40% of tertiary amino groups.

Page 10, paragraph beginning at line 12 to line 22, amend as follows:

Examples of combinations of diamine and dicarboxylic acid are

hexamethylenediamine/adipic acid, hexamethylenediamine/dodecanedioic acid, octamethylenediamine/sebacic acid, decamethylenediamine/sebacic acid, decamethylenediamine/dodecanedioic acid, dodecamethylenediamine/dodecanedioic acid and dodecamethylenediamine/2,6-naphthalenedicarboxylic acid. However, it is also possible to use all other combinations, for example decamethylenediamine/dodecanedioic acid/terephthalic acid, hexamethylenediamine/adipic acid/terephthalic acid, hexamethylenediamine/adipic acid/caprolactam, decamethylenediamine/dodecanedioic acid/ ω -aminoundecanoic acid, decamethylenediamine/dodecanedioic acid/lauro lactam, decamethylenediamine/terephthalic acid/lauro lactam or dodecamethylenediamine/2,6-naphthalenedicarboxylic acid/lauro lactam.

Page 11, paragraph beginning at line 20 to page 12, line 9, amend as follows:

In addition, aliphatic, alicyclic, aromatic, araliphatic and/or alkylaryl-substituted monocarboxylic acids having from 3 to 50 carbon atoms, e.g. lauric acid, unsaturated fatty

113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

acids, acrylic acid or benzoic acid, can, if desired, be used as regulators. These regulators enable the concentration of amino groups to be reduced without altering the molecular structure. Furthermore, functional groups such as double or triple bonds, etc., can be introduced in this way. However, it is desirable for the polyamine-polyamide copolymer to have a substantial proportion of amino groups. The amino group concentration of the copolymer is preferably in the range from 150 to 1500 mmol/kg, particularly preferably in the range from 250 to 1300 mmol/kg and very particularly preferably in the range from 300 to 1100 mmol/kg. The amino group concentration of the copolymer includes all values and subvalues therebetween, especially including 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300 and 1400 mmol/kg. Here and in the following, the term: amino groups refers not only to terminal amino groups but also to any secondary or tertiary amine functions present in the polyamine.

Page 14, paragraph beginning at line 9 to line 14, amend as follows:

Impact-toughening rubbers for polyamide molding compositions contain functional groups derived from unsaturated functional compounds which are either copolymerized into the main chain or are grafted onto the main chain. Most useful is EPM or EPDM rubber onto which maleic anhydride has been grafted by a free-radical mechanism. Such rubbers can also be used together with an unfunctionalized polyolefin such as isotactic polypropylene, as described in EP-A-0683210.

Page 15, paragraph beginning at line 24 to page 16, line 8, amend as follows:

When the multilayer composite of the invention is used for conveying or supplying combustible liquids, gases or dusts, e.g. fuel or fuel vapor, it is advisable to make one of the layers of the composite or an additional interior layer electrically conductive. This can be achieved by compounding with an electrically conductive additive by means of all methods

of the prior art. As conductive additive, it is possible to use, for example, conductive carbon black, metal flakes, metal powder, metallized glass spheres, metallized glass fibers, metal fibers (for example of stainless steel), metallized whiskers, carbon fibers (including metallized carbon fibers), intrinsically conductive polymers, e.g. polyaniline, or graphite fibrils. Mixtures of various conductive additives can also be used.

Page 16, paragraph beginning at line 9 to line 12, amend as follows:

The electrically conductive layer is preferably in direct contact with the medium to be conveyed or stored and has a surface resistance of not more than $10^9 \Omega/\text{square}$, preferably not more than $10^6 \Omega/\text{square}$. The method of determining the resistance of multilayer pipes is described in SAE J 2280 (November 1996, paragraph 7.9).

Page 17, paragraph beginning at line 12 to line 21, amend as follows:

4.78 kg of laurolactam were melted at from 180 to 210°C in a melting vessel and transferred to a pressure-rated polycondensation vessel 250 ml of water and 57 ppm of hypophosphorous acid were then added. The cleavage of the laurolactam was carried out at 280°C under autogenous pressure. The vessel was subsequently depressurized over a period of 3 hours to the vapor pressure of residual water of 3 bar and 230 g of polyethylenimine (LUPASOL® 100, BASF AG, Ludwigshafen) were added. The mixture was then depressurized to atmospheric pressure and polycondensation was carried out at 250°C for 2 hours while passing nitrogen over the reaction mixture. The clear melt was discharged as an extruded strand by means of a melt pump, cooled in a water bath and subsequently granulated.

Page 18, paragraph beginning at line 2 to line 8, amend as follows:

45 parts by weight of VESTAMID® ZA7295 (a high-viscosity PA12 for extrusion molding compositions containing an excess of terminal amino groups), 40 parts by weight of

NOVOLEN® 2500H (an ethylene-propylene block copolymer from Targor GmbH; extrusion grade), 10 parts by weight of ADMER® QB520E (an isotactic polypropylene grafted with maleic anhydride from Mitsui) and 5 parts by weight of the polyamine-polyamide copolymer prepared above were melted and mixed at 250°C for 5 minutes in a laboratory kneader from Haake.

IN THE CLAIMS

Please amend Claims 19 and 21 as follows.

19. (Amended) The multilayer composite as claimed in Claim 1, which is in the form of a fuel line, a tank filling port, a vapor line, a filling station pipe, a coolant line, a pipe in an air conditioning unit, a line for clutch fluid, an air brake line, a windscreen washer pipe or a fuel container.

21. (Amended) A molding composition, comprising:

at least 50% by weight of the following components:

- a) from 30 to 70 parts by volume of a polymer selected from the group consisting of a polyamide, at least 0.1 part by volume of polyamine-polyamide copolymer and a combination of a polyamide and at least 0.1 part by volume of polyamine-polyamide copolymer;

wherein said polyamine-polyamide copolymer is prepared using the following monomers:

- α) from 0.1 to 25% by weight, based on the polyamine-polyamide copolymer, of a polyamine containing at least 3 nitrogen atoms, and